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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,003	12/19/2006	Philippe Krafft	291453US0PCT	7750

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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KEYS, ROSALYND ANN

ART UNIT	PAPER NUMBER
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1621

NOTIFICATION DATE	DELIVERY MODE
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12/08/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/580,003	<b>Applicant(s)</b> KRAFFT ET AL.	
	<b>Examiner</b> Rosalynd Keys	<b>Art Unit</b> 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2010 & 23 September 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 77-79 and 85-99 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 77-79 and 85-99 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/19/10; 7/21/10; 8/27/10; &amp; 10/13/10</u> .               | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### ***Status of Claims***

1. Claims 77-79 and 85-99 are pending.  
Claims 77-79 and 85-99 are rejected.  
Claims 1-76 and 80-84 are cancelled.

### ***Information Disclosure Statement***

2. The information disclosure statements submitted on 8/18/06; 4/19/10; 7/21/10; 8/27/10; and 10/13/10 have been considered by the examiner.

### ***Response to Amendment***

#### **Specification**

3. The Abstract of the Disclosure submitted on September 13, 2010 is acceptable.

#### **Claim Objections**

4. The objection to claim 95 is overcome. Thus, the objection is withdrawn.

#### **Claim Rejections - 35 USC § 112**

5. The rejection of claim 87 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement and the rejection under 35 U.S.C. 112, second paragraph is overcome. Thus, the rejection is withdrawn.

#### **Claim Rejections - 35 USC § 102**

6. The rejection of claims 77, 85-88, 90, 91, and 94 under 35 U.S.C. 102(b) as being anticipated by GB 14,767 is withdrawn, since fatty acids have been eliminated as a carboxylic acid selection.

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*Claim Rejections - 35 USC § 103*

7. The rejection of Claims 77-96 under 35 U.S.C. 103(a) as being unpatentable over DE 197308, Britton et al. (US 2,144,612), or Novelli (Anal. Farm. bioquim) in view of Satoshi et al. (JP 62-242638) or DE 238341 or GB 14,767 and further in view of GB 984,633 is withdrawn, due to the amendment to claim 77 which eliminates the catalyst from being selected from a carboxylic acid ester.

***Response to Arguments***

8. Applicant's arguments filed September 13, 2010 have been fully considered but they are not persuasive.

The applicants submit that while the primary references cited against the claims describe acids, like e.g. acetic acid, Satoshi does not describe acetic acid and instead directs one of ordinary skill to use higher acids in the chlorination of certain ether compounds of formula I therein.

This submission is not persuasive because Satoshi teach the use of C1-15 monocarboxylic acid and expressly discloses the use of acetic acid for use as a chlorination catalyst for chlorinating an ether alcohol. Thus, like the primary references, Satoshi et al. is chlorinating an alcohol with hydrogen chloride in the presence of a chlorination catalyst, in particular a carboxylic acid. Thus, one having ordinary skill in the art would have considered Satoshi et al. reasonably pertinent to the teachings of DE 197308 and Britton et al.

***Response to 1.132 Declaration***

9. The declaration under 37 CFR 1.132 filed September 23, 2010 is insufficient to overcome the rejection of claim 77 based upon the teachings of DE 197308 and Britton et al. under 35 U.S.C. 103(a) because:

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1) The results obtained by the Applicants are not convincing of unexpected results. Any differences between the claimed invention and the prior art may be expected to result in some differences in properties. The issue is whether the properties differ to such an extent that the difference is really unexpected. *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The evidence relied upon should establish "that the differences in results are in fact unexpected and unobvious and of both statistical and practical significance." *Ex parte Gelles*, 22 USPQ2d 1318, 1319 (Bd. Pat. App. & Inter. 1992). See *Ex parte C*, 27 USPQ2d 1492 (Bd. Pat. App. & Inter. 1992) (Applicant alleged unexpected results with regard to the claimed soybean plant, however there was no basis for judging the practical significance of data with regard to maturity date, flowering date, flower color, or height of the plant.).

2) The difference in results obtained using adipic acid vs. acetic acid could be as a result of the differences in type of organic carboxylic acid used (see Example 2 on pages 3 and 4 of the English translation of DE 197308) or in the different amounts of HCl and organic carboxylic acid used (see for example the paragraphs bridging pages 1 and 2 and pages 2 and 3 of the English translation of DE 197308, wherein it is taught that the yields of dichlorohydrin are dependent upon the amount of hydrochloric acid used; and paragraphs 1 and 2 on pages 1 and 2 and the last paragraph on page 4 of the English translation of DE 197308, wherein it is taught that the amount of organic carboxylic acid used also effects the yield and product purity.

3) The differences in results obtained using succinic acid vs. glutaric acid and adipic acid can be as a result of the use of a different carboxylic acid as discussed above as well as a result in the differences in time of reaction, which is a well known result effective variable with regard to yield of products and by-products.

4) Novelli teaches tricarboxylic acid and Satoshi disclose polycarboxylic acids.

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***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 77-79 and 85-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 197308 and Britton et al. (US 2,144,612) in view of Novelli (Anal. Farm. bioquim) and Satoshi et al. (JP 62-242638) and further in view of GB 984,633.

DE 197308 (see English Translation pages 1-5) and Britton et al. (see entire disclosure, in particular page 1, col. 1, line 4 to col. 2, line 54; the Examples; page 3, column 1, line 54 to column 2, line 48; and claim 3), each teach producing dichlorohydrins of glycerol, i.e.,

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dichloropropanols, by reacting glycerol with hydrogen chloride in the presence of an organic carboxylic acid. The reactions are conducted in a reaction vessel. The carboxylic acid can be added together with glycerol and/or solvent (see the Examples of DE 197308 and Britton et al.). Britton et al. teach the use of water-immiscible organic solvents (see page 1, column 1, lines 31-41 and page 3, column 1, line 54 to column 2, line 24). Britton et al. teach that the reaction can be continuous (see page 3, right column, lines 25-48). Britton et al. further teach that dichlorohydrins are useful for preparing derivatives such as epichlorohydrin (see col. 2, lines 36-47). Britton et al. also teach that an aqueous hydrochloric acid solution may be substituted for the gaseous hydrogen chloride (see page 3, column 1, lines 54-60) and uses an aqueous acid containing 35.9 % hydrogen chloride (see example 4).

DE 197308 and Britton et al., differ from the instant claims in that they do not teach the use of the specifically claimed organic carboxylic acids. However, DE 197308 and Britton et al., do not limit the organic carboxylic acids that can be used, therefore one having ordinary skill in the art would reasonably believe that any organic carboxylic acid would be suitable for use as the catalyst.

Novelli (see abstract) teach producing dichlorohydrins of glycerol, i.e., dichloropropanols, by reacting glycerol with hydrogen chloride in the presence of an organic carboxylic acid including a tricarboxylic acid.

Satoshi et al. (see abstract) teach that carboxylic acids are suitable for use as a chlorinating catalyst for the reaction of an alcohol with hydrogen chloride. The carboxylic acids include C1-C15 mono and polycarboxylic acids.

One having ordinary skill in the art at the time the invention was made would have found it obvious to utilize any carboxylic acid in the process of DE 197308 and Britton et al., including the carboxylic acids disclosed by Novelli and Satoshi et al., since DE 197308 and Britton et al.,

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do not limit the carboxylic acids that can be utilized and Novelli has shown that tricarboxylic acids are suitable for preparing dichlorohydrins of glycerol and Satoshi et al. has shown that mono and polycarboxylic acids are suitable chlorinating catalysts,

Britton et al. further differ from the instant claims in that Britton et al. do not teach producing epoxy resins from the epichlorohydrin.

GB 984,633 teach that epoxy resins may be obtained by action of epichlorohydrin on a phenol having at least two hydroxyl groups (see col. 1, lines 19-24).

One having ordinary skill in the art at the time the invention was made would have found it obvious that the epichlorohydrin disclosed by Britton et al. could be used to obtain an epoxy resin, since GB 984,633 teach that epoxy resins may be obtained by action of epichlorohydrin on a phenol.

### ***Double Patenting***

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).



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15. Claims 77-79 and 85-99 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 12/502,342. Although the conflicting claims are not identical, they are not patentably distinct from each other because one having ordinary skill in the art at the time the invention was made would have found it obvious utilize a reactor made out of one of the materials disclosed in copending Application No. 12/502,342, since these materials are known to be inert to corrosive substances such as hydrochloric acid and thus would allow the reaction to proceed without contamination to the reactant product from the reaction vessel.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Conclusion***

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosalynd Keys whose telephone number is (571)272-0639. The examiner can normally be reached on M-F 5:30 am-7:00 am and 9:00 am-3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Sullivan can be reached on 571-272-0779. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rosalynd Keys/  
Primary Examiner, Art Unit 1621  
December 2, 2010